

Graph Making Made Easy

Ex: A student collects data on how the height he drops a golf ball from effects the number of times it bounces.

Drop Height (ft)	# of Bounces (Bounces)
2	5
3	9
4.5	15
6.5	21

STEPS

1. Determine which variable is dependent and which is independent

2. Label the axes on your graph (be sure to include units)

ex:

Ind. - X axis Drop Height

Dep. - Y axis # of Bounces

Title your graph:

Dep. Var. VS.

Ind Var.

EX:

of Bounces VS.

Drop Height (ft)

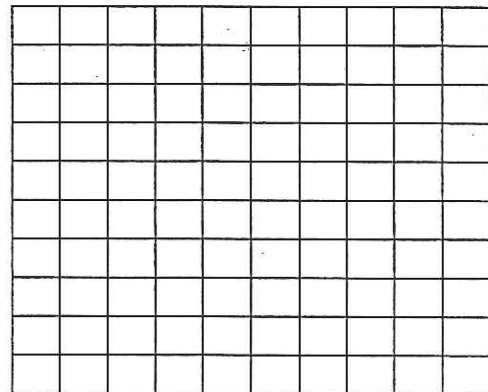
EXAMPLE

Independent Variable – The variable that the experimenter (YOU) can change

Dependent Variable – The variable that changes in response to changes made to the independent variable.

In the above example: The student can change the height he drops the ball from so it is the Independent Variable.

of Bounces
(Bounces)



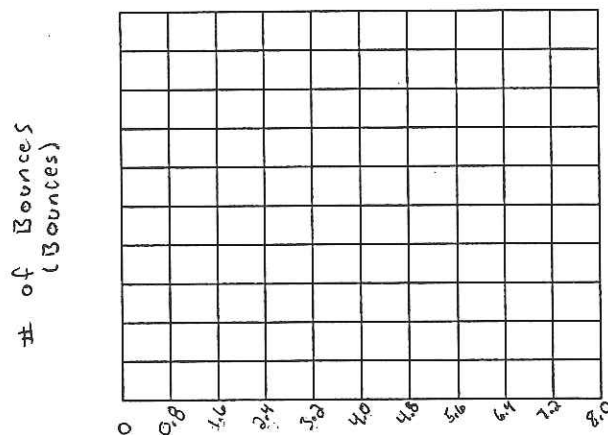
Drop Height (ft)

3. Add a scale (#'s) to your X axis.
Find scale for your X axis by looking at your data table at the data for your Independent variable

- Find the highest value (ex. 6.5)
- Round this value UP to a number that is easy to work with (ex. 8)
- Count the number of boxes across the X axis (ex. 10)
- Divide the number you chose in step ii by the number of boxes from step iv. (ex. $8 \div 10 = 0.8$)

Start at the origin and add this value each time you move over a box.

Drop Height (ft)
2
3
4.5
6.5



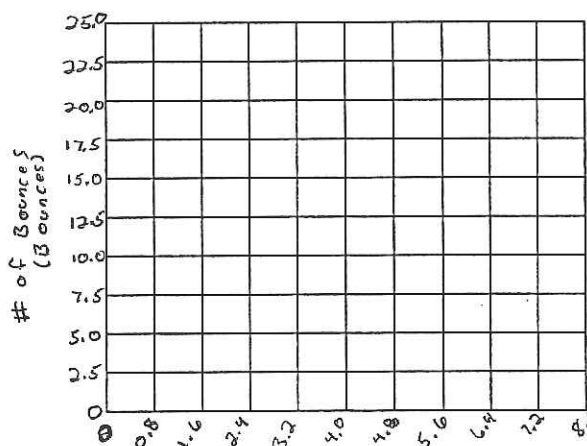
Drop Height (ft)

4. Add a scale to your Y axis
Follow the same procedure using the values in the data table that represent your dependent variable

- Find the highest value (ex. 21)
- Round this value UP to a number that is easy to work with (ex. 25)
- Count the number of boxes across the X axis (ex. 10)
- Divide the number you chose in step ii by the number of boxes from step iv. (ex. $25 \div 10 = 2.5$)

Start at the origin and add this value each time you move up a box

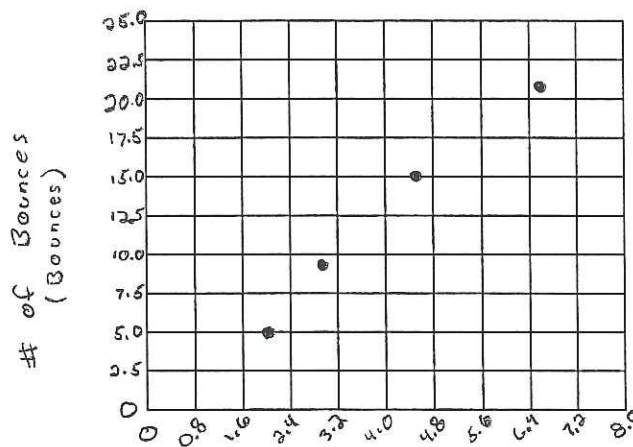
of Bounces (Bounces)
5
9
15
21



Drop Height (ft)

5. Plot the data points on your graph

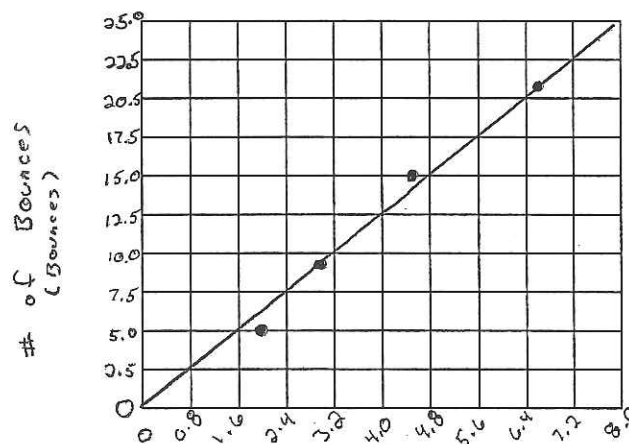
- i. Start at the origin (lower left hand corner of the graph)
 - ii. Move from the origin to the right until you reach the first number in the independent column on your data table (ex. 2)
- ***Remember the values you are looking for may be in between two lines***
- iii. Move up from that position the amount shown as the corresponding value in the dependent column of the data table (ex. 5)
 - iv. Make a dot at this point
 - v. Repeat the process until you have a made one dot for each line in your data table



Drop Height (ft)

6. Add a best fit line to your graph

- i. Use a ruler to draw one straight line that is as close to (or touching) as many of the data points as possible
- ii. Your best fit line should start at the Y axis and go as far as it can across your graph



Drop Height (ft)

7. Give your graph an appropriate title

- i. Your title should tell the person viewing it what data they are looking at.
- ii. Your title should be written above the graph in the center. (see large graph for example)

Here is a larger copy of the graph created as our example...

of Bounces vs. Drop Height (ft)

